



Birth Defects

Every 4 ½ minutes, a baby is born with a major birth defect in the United States. Major birth defects are conditions present at birth that cause structural changes in one or more parts of the body. They can have a serious effect on health, development, or functional ability.

NCBDDD's Division of Birth Defects and Developmental Disabilities helps to prevent major birth defects associated with maternal risk factors such as obesity, diabetes, and medications.

2012 Accomplishments

- Launched efforts to improve understanding of congenital heart defects across the lifespan. Convened meeting with experts to identify the most critical gaps in knowledge and developed a pilot project with three sites to monitor and track adolescents and adults with congenital heart defects. The pilot project will help to better understand the long-term outcomes and needs of this population.
- Completed research and reported important findings about the association between some pregnancy exposures and birth defects. These studies found an increased risk for orofacial clefts with maternal use of topiramate, a medicine used to treat seizure disorders and used in a new weight loss medication; an association between diet quality and some birth defects; and an increased risk of birth defects for babies born from mothers who had diabetes mellitus and did not consume vitamins or supplements containing folic acid before and during the first months of pregnancy.
- Launched the TR_xeating for Two initiative which aims to prevent birth defects associated with medication use during pregnancy while protecting the mother's health. This initiative will identify the best alternatives for management of common conditions during pregnancy and the childbearing years. It includes a comprehensive approach to improve the quality of data related to safe medication use during pregnancy, translate the information into safe and effective healthcare for pregnant women, and make it easily accessible to women and their healthcare providers.

Looking to the Future

NCBDDD's Division of Birth Defects and Developmental Disabilities is identifying causes of birth defects, finding opportunities to prevent them, and improving the health of those living with birth defects. By applying a public health approach incorporating three essential elements—surveillance or disease tracking, research to identify causes, and prevention research and programs—we can rapidly translate scientific findings into appropriate public health interventions. Understanding the potential causes of birth defects can lead to recommendations, policies, and services to help prevent them. We work toward a day when every child is born with the best health possible.

NCBDDD's Division of Birth Defects and Developmental Disabilities will oversee a new research study, Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS), that builds upon experience from previous collaborative case-control studies of birth defects, such as the National Birth Defects Prevention Study. BD-STEPS will identify modifiable maternal exposures in early pregnancy that may increase the risk for having a pregnancy affected by certain major, structural birth defects.

Through the TR_xeating for Two initiative, NCBDDD's Division of Birth Defects and Developmental Disabilities will continue to develop a formal review process to assess the effects of medication use during pregnancy. The development of this formal review process began with a meeting of experts in January 2013 to critically review the draft prototype for the TR_xeating for Two Task Force and to identify needed improvements or new directions.

NCBDDD's Division of Birth Defects and Developmental Disabilities works to improve the lives of those born with birth defects through birth defects surveillance programs that refer infants and children identified with birth defects to needed medical and ancillary health services. Additionally, we are building surveillance and research collaborations with state-based programs and academic partners to better understand health services utilization, longer term health outcomes, and the costs of caring for individuals with birth defects. These efforts will help us and others identify potential interventions to reduce disparities in care and outcomes such as infant mortality to improve the length and quality of life of those with birth defects.

Jodi's Story



Jodi is the mother of a child with a critical congenital heart defect.

To read Jodi's personal story, visit: www.cdc.gov/Features/HeartDefectsAwareness

Notable Scientific Publications

Broussard CS, Gilboa SM, Lee KA, Oster M, Petrini JR, Honein MA. (2012). Racial/Ethnic Differences in Infant Mortality Attributable to Birth Defects by Gestational Age. *Pediatrics*;130:1–10.

Correa A, Gilboa SM, Botto LD, et al. Lack of periconceptional vitamins or supplements that contain folic acid and diabetes mellitus–associated birth defects. *Am J Obstet Gynecol* 2012;206:218.e1-13.

Gilboa SM, Correa A, Desrosiers T, et al. Maternal Occupational Exposure to Organic Solvents and Congenital Heart Defects: Results from the National Birth Defects Prevention Study, 1997-2002. *Occup Environ Med.* 2012; 69(9):628-35.

Kucik JE, Alverson CJ, Gilboa SM, Correa A. Racial/ethnic variations in the prevalence of selected major birth defects, metropolitan Atlanta, 1994-2005. *Public Health Rep.* 2012 Jan-Feb;127(1):52-61.

Lin S, Munsie JP, Herdt-Losavio ML, et al. Maternal Asthma Medication Use and the Risk of Selected Birth Defects. *Pediatrics.* 2012;129(2):e317-24.

Werler MM, Ahrens KA, Bosco JLF, Mitchell AA, Anderka MT, Gilboa SM, Holmes LB. Use of Antiepileptic Medications in Pregnancy in Relation to Risks of Birth Defects. *Annals of Epidemiology.* 2011; 21(11):842-850.

Did You Know?

- About one in every 33 babies is born with a birth defect.
- Birth defects are one of the leading causes of infant deaths, accounting for more than 20% of all infant deaths.
- Babies born with birth defects have a greater chance of illness and long term disability than babies without birth defects.

To view the annual report online, visit:
www.cdc.gov/ncbddd/2012AnnualReport

For more information about birth defects, visit:
www.cdc.gov/BirthDefects